

ON THE BRITISH SPECIES OF *PHORA*.

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(Continued from Vol. xlv, p. 244).

SECTION D.

- 1 (44) *First costal division much longer than the second and third together (at least half as long again, often twice as long or even more).*
- 2 (25) *Costal fringe short.*
- 3 (4) *Middle and hind tibiae with double rows of cilia, one on each side the seam.*

♂ ♀. Thorax and halteres yellow, mesopleuræ bare; venter and 1st segment of male abdomen wholly yellow, the rest of the dorsum black or suffused on the last segment or two with yellow, female abdomen black only on dorsum of 3rd and 4th segments; frons yellow, dusky towards vertex, rather longer than broad, its bristles large, inner bristle of the lower row much below level of outer one, but well away from eye margin; one pair only of very minute supra-antennal bristles; antennæ and palpi clear yellow, the former large and oval and with a very short arista (about as long as the frons), the latter small and with very short and stubby bristles; wings pale yellowish; costa about $\frac{2}{5}$ wing length, 1 fully double 2 + 3 (♂) rather less (♀), angle at fork rather small, 1st thin vein recurved at margin; legs yellow; tibial cilia on inner side of seam very large and conspicuous, on outer smaller and confined to upper half of limb; hind metatarsi somewhat thickened (♂) much thickened (♀); hypopygium more or less concealed within the last segment, but usually leaving visible the short rounded flap into which the lower edge on each side is cut; anal organ very large, yellow, but more dusky at its base, and with the usual pair of terminal bristles remarkably large; ovipositor very large, the 1st joint always exerted and often the whole organ, 2nd joint encircled at the end with 6 strong bristles $1\frac{1}{2}$ —2 mm. *fasciata*, Fall.

- 4 (3) *Cilia on one side of the seam only—the inner.*
- 5 (14) *Mesopleuræ bristly.*
- 6 (7) *Halteres yellow. Arista very short—not longer than the frons.*

♂. Thorax yellow, pleural bristles small and few; abdomen black; frons grey, as long as broad, frontal bristles as in *fasciata*; the upper pair of supra-antennal bristles small, the under very minute; antennæ red, not large, and of the usual roundish form: palpi pale yellow, large and armed as in *fasciata*; wings and veins yellow; costa about $\frac{2}{5}$ wing length, 1 about half as long again as 2 + 3, angle at fork acute, 1st thin vein nearly straight at its origin from the fork and not recurved at the margin (this straightness at the start is the invariable condition of the first thin vein, at least in those species in this section which do not much exceed 1 mm. in measurement); legs yellow, hind femora dusky at tip, the hairs on basal half of its under-side well developed; hind tibiae strongly arched and strongly ciliated; hypopygium concealed, anal organ clear yellow, very

large, and as long as the last abdominal segment, the bristles at its extremity of the usual sizebarely 1 mm. *pollens*, n. sp.

7 (6) *Halteres black. Arista much longer than frons.*

8 (9) *Pleuræ with a very large and spine-like bristle on each side, besides smaller ones.*

♂. Described from a single specimen: Thorax and abdomen black, the latter with pale hind margins to the segments, the spine-like bristle very conspicuous and situate high up on the pleura close to the root of the wing; frons black, $\frac{1}{3}$ broader than long, 4 large and nearly equal supra-antennal bristles, the upper pair wide apart and outside an alignment with inner bristle of middle frontal row, the under pair considerably below them and approximated; outer bristle of lower frontal row much above the level of the inner one, antennæ not small, palpi yellow; wings lightly tinged with grey, thick veins black, costa $\frac{2}{3}$ wing length, fringe very short, 1 fully half as long again as 2 + 3, angle at fork large; legs brown, hind femora with some long, loose hairs on basal half of under-side, tibial cilia weak but fairly distinct and bristly in character; hypopygium almost entirely concealed within the last segment, but as far as can be judged it is very short, a small subanal body being exposed but no ventral plate, whilst the yellow anal organ is very large and as long as the last abdominal segmentabout $\frac{3}{4}$ mm. *spinata*, n. sp.

9 (8) *Pleuræ without such bristle.*

10 (11) *Terminal joint of fore tarsi dilated. Wings limpid, thin veins colourless.*

♂. Described from a single specimen: Thorax and abdomen black; frons dull, about $\frac{1}{3}$ broader than long, apparently but one pair of small and closely approximated supra-antennal bristles, antennæ small, palpi dusky yellow; wings limpid with colourless thin veins, costa hardly more than $\frac{1}{3}$ wing length, it and the supporting veins black, fringe very short, 1 about $\frac{3}{4}$ as long again as 2 + 3, angle at fork large; legs brownish-black, end joint of fore-tarsi dilated, distinctly wider than the penultimate joint instead of narrower as usual, under-side of hind femora remarkably serrated near the base with about 4 blunt teeth, hind tibiae bare; hypopygium withdrawn within the last segment, leaving exposed only a rather large and depressed black anal organbarely more than $\frac{1}{2}$ mm. *serrata*, n. sp.

11 (10) *Terminal joint simple.*

12 (13) *Abdomen strikingly banded with whitish hind margins to the segments.*

♂ ♀. Thorax and abdomen black, halteres brown; frons dull, about $\frac{1}{4}$ broader than long, 4 large and nearly equal supra-antennal bristles, the under pair almost directly underneath the upper, antennæ small, palpi yellow; wings nearly clear, thin veins fine and delicate, costa rather more than $\frac{1}{3}$ wing length, fringe very short, 1 more than double 2 + 3, angle at fork moderate; legs blackish (♂) browner (♀), fore tarsi somewhat short and thick, tibial cilia very short and delicate; hypopygium large with some long hairs on each side, ventral plate small and yellowish, anal organ black, short and stout.....about 1 mm. *verratti*, n. sp.

13 (12) *Abdomen not so banded.*

♂. Thorax and abdomen black; frons fully $\frac{1}{3}$ broader than long, 4 large and nearly equal supra-antennal bristles, the upper pair wide apart and outside an alignment with inner bristles of middle frontal row, under pair closely approximated, palpi yellow, antennæ fairly large; wings nearly clear, veins black, 1 not more than half as long again as $2 + 3$, costa more than $\frac{1}{3}$ but less than $\frac{2}{3}$ wing length, fringe only moderately short; legs from yellowish-brown to almost black, fore tarsi somewhat thickened with the metatarsus shorter than the 2 following joints, hind tibiæ very finely and thickly ciliated; hypopygium large, produced on either side below into a point armed with a bunch of 5 or 6 short hairs, ventral plate minute and yellow, anal organ black, rather long and slender $\frac{3}{4}$ mm. *lutifrons*, n. sp.

14 (5) *Mesopleuræ* bare.15 (20) *Halteres* yellow.16 (17) *A largish species* ($1\frac{1}{2}$ mm. or more). *First costal division more than twice as long as the other two.*

♂ ♀. Thorax black, sometimes obscurely reddish; abdomen entirely black, or yellow underneath and with narrow yellow margins to the segments; frons black and slightly shining, rather broader than long, upper supra-antennal bristles large, under ones much smaller—about $\frac{1}{4}$ the size, antennæ black or red, palpi pale yellow; wings nearly clear in the darker and pale yellowish-brown in the paler specimens, costa $\frac{1}{3}$ wing length, 1 more than double $2 + 3$, fringe only moderately short, outer branch of 2nd thick vein incrassated, angle at fork large; legs very variable, from yellow in the pale forms to brown or almost black in the dark, tibial cilia distinct and rather sparse; male abdomen stoutish, hypopygium small, bare of bristles and almost of hairs, ventral plate small and indistinct, anal organ short and thick, black in the dark and yellow in the pale forms...

$1\frac{1}{2}$ — $1\frac{3}{4}$ mm. *pygmæa*, Zett.

17 (16) *Small species* (under 1 mm.). *First costal division only half as long again as the other two.*18 (19) *Halteres* yellow and yellow stalked. *Hypopygium without bristles.*

♂. Thorax and abdomen black; frons black, $\frac{1}{3}$ broader than long, upper supra-antennal bristles fairly large and approximated, under ones directly underneath them and much smaller, antennæ black, palpi yellow; wings tinged with yellowish-brown, thin veins dark and strong, costa barely more than $\frac{1}{3}$ wing length, fringe only moderately short, angle at fork moderate; legs yellowish-brown, fore tarsi rather longer and more slender than usual, cilia on hind tibiæ fine and delicate; male abdomen stout, hypopygium small and prolonged behind into a sort of snout, a few fine hairs but no bristles, the large and dusky ventral plate broad but with a pointed end, anal organ yellow, of moderate size and proportions and with a jaunty upward tilt..... $\frac{3}{4}$ mm. or rather more, *lata*, n. sp.

19 (18) *Halteres* pale yellow and black stalked. *Hypopygium with a small bristle at each hind corner.*

♂ ♀. Thorax and abdomen black; frons moderately but distinctly glossy, about $\frac{1}{4}$ broader than long, only 1 pair of rather weak supra-antennal bristles, placed low on the frons and very closely approximated, consequently inner bristles of lower frontal row rather nearer the middle line than usual, palpi dull or dusky yellow; wings nearly clear, thin veins fine and delicate, costa $\frac{1}{3}$ wing length; legs blackish-brown, fore tarsi not longer and more slender than usual (normal) tibial cilia fine and delicate; male abdomen not stout, hypopygium of moderate size, rather hairy and with a short bristle below on each side, ventral plate indistinguishable, anal organ yellow or dusky yellow, short and thick... $\frac{1}{2}$ mm. or barely, *angelicae*, n. sp.

20 (15) *Halteres black*.

21 (22) *Male palpi very large and armed with only a few weak bristles*.

♂. Thorax and abdomen black; frons broad and low (fully half as broad again as long), somewhat shining, apparently but one pair of small and approximated supra-antennal bristles, antennæ small, palpi black, in form and size extremely like the palpi of *Phora nudipalpis*; wings pale grey, costa $\frac{2}{3}$ wing length, 1 not more than half as long again as 2 + 3, angle at fork large; legs blackish-brown, front tibiae short and stout, and tarsi also somewhat stout, hind tibiae bare; hypopygium fairly large with 1 or 2 small bristles beneath on each side, ventral plate broad and black, ending in a conspicuous pale yellow and somewhat curved process, anal organ small with a yellowish tip $\frac{3}{4}$ mm. *longipalpis*, n. sp.

22 (21) *Palpi simple*.

23 (24) *Costa very short—barely $\frac{1}{3}$ wing length; fringe short without being very short. A very minute species.*

♂. Thorax and abdomen black; frons black, fully $\frac{1}{3}$ broader than long, supra-antennal bristles large and nearly equal, the upper pair set very wide apart and outside an alignment with the inner bristles of the middle frontal row, under pair considerably below them and approximated, outer bristle of lower frontal row moved higher up the frons than usual, and the middle row shifted close up against the ocellar triangle, antennæ small and black, arista thick and short—not half as long again as the frons, palpi yellow; wings lightly tinged with yellowish-brown, veins brown, the thin ones fine and delicate, 1 more than double 2 + 3, angle at fork moderate; legs yellowish-brown, hind femora more dusky at the outer end and beneath with a few long hairs on the basal half, hind tibiae scarcely arched on the upper-side, the cilia small and delicate but of bristly character; hypopygium moderate in size, with a few strongish hairs beneath, ventral plate not distinguishable, anal organ small and yellow...

barely $\frac{1}{2}$ mm. *gregaria*, n. sp.

24 (23) *Costa more than $\frac{1}{3}$ wing length; fringe very short.*

♀. Described from a single specimen: Thorax obscurely reddish, abdomen black; frons obscurely reddish with a narrow margin of red above the antennæ, frontal and supra-antennal bristles as in *gregaria*, antennæ small and red, arista of the usual length, palpi yellow; wings more distinctly

tinged than in *gregaria*, thick veins blackish, thin ones brown, strong and distinct, costa more than $\frac{1}{3}$ and less than $\frac{2}{5}$ wing length, the uniformity of its curve broken by a depression just past the insertion of 1st thick vein, 1 about double 2 + 3, angle at fork very large—nearly a right angle, 1st thin vein slightly but plainly recurved at margin; legs pale yellow, tip of hind femora blackish, hind tibiae arched and the cilia larger and more distinct than in *gregaria* $\frac{3}{4}$ mm. or rather more, *rufifrons*, n. sp.

25 (2) *Costal fringe long.*

26 (33) *Mesopleura bristly.*

27 (28) *Besides the ordinary bristles a remarkably large and spine-like one similar to the one in spinata, and lying as there close to the root of the wing.*

♂ ♀. A deep black species: Thorax and abdomen black, the spine-like bristle in the fresh state lies flat against the side, directed horizontally backwards, but in drying assumes various positions and more often than not sticks out at right angles to the pleura; frons more than $\frac{1}{3}$ broader than long, supra-antennal bristles not large, the upper very wide apart and well outside an alignment with inner bristles of middle frontal row, the under approximate, quite small and generally concealed by the antennae, antennae rather large, palpi black; wings nearly clear, costa $\frac{2}{5}$ wing length or a little more, 1 half as long again as 2 + 3, thin veins fine but distinct, angle at fork large; legs black, tibial cilia distinct and bristly but not large; hypopygium grey, large and knob-like, produced below at the corner next the abdomen to a point on each side armed with some stout hairs, which are continued a little way up the side, the yellowish ventral plate small and narrow, subanal body large and frequently exerted, anal organ of good size, black with a yellow tip about 1 mm. *pectoralis*, n. sp.

28 (27) *With no such bristle.*

29 (30) *Fore tarsi short and distinctly thickened in both sexes. Halteres variable, from yellow to black.*

♂ ♀. Thorax and abdomen black; frons black, obscurely shining, about $\frac{1}{3}$ broader than long, 4 moderate and nearly equal supra-antennal bristles, the upper ones inside an alignment with inner bristles of middle frontal row, antennae small, palpi yellow; wings nearly clear, costa $\frac{2}{5}$ wing length or rather less, fringe full long yet not very long, 1 at least double 2 + 3, angle at fork moderate; legs from dark yellowish-brown to almost black, tibial cilia very small and numerous; the last 2 segments or so of male abdomen margined on each side of the venter with some large and coarse hairs, continued on to the hypopygium in a more delicate form, hypopygium of moderate size, black and somewhat glossy at the base, ventral plate indistinguishable, anal organ small, yellow or dusky yellow...

about 1 mm. *involuta*, n. sp.

30 (29) *Fore tarsi simple. Halteres not variable.*

31 (32) *Halteres deep yellow.*

♂ ♀. Thorax and abdomen black; frons somewhat shining, about $\frac{1}{4}$ broader than long, 4 strong and equal supra-antennal bristles (♂) nearly equal

(♀), the upper pair approximated and the under close underneath them and well in view, antennæ small, palpi dull yellow; wings nearly clear, costa less than $\frac{2}{3}$ wing length, fringe very long, 1 double 2+3, angle at fork moderate; legs brownish-black to deep black, tibial cilia very fine and numerous; male abdomen stout, hypopygium small, without bristles or hairs, the yellowish ventral plate large and nearly reaching in the quiescent state to the end of the hypopygium, the short and thick anal organ yellow or black $1\frac{1}{4}$ — $1\frac{3}{4}$ mm. *simplex*, n. sp.

(To be continued).

HELP-NOTES TOWARDS THE DETERMINATION OF BRITISH
TENTHREDINIDÆ, &c. (26 continued).

DOLERIDES (continued). DOLERUS, JUR.

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(Continued from page 105).

FURTHER NOTES ON THE SPECIES.

Triplicatus, Kl.—The only British ♂♂ I have seen have the thorax entirely black. This form was described by Klug as *T. tremula*, and Konow employed the name *tremulus*, Kl., for the species. But, as the ♀ had previously been described in the same work as *T. triplicata*, I follow Mr. Cameron in retaining the name which appears to have priority.

Madidus, Kl.—This species is called *lateritius* in the Monograph. But, according to Konow, *T. lateritia*, Kl., is the ♀ not of *T. madida*, Kl., but of another of his ♂♂, viz., *uliginosa*, which seems not to be British. Therefore in this case I adopt Konow's nomenclature.

Ferrugatus, Lep.—The identification of this species (called by Thomson, *brevicornis*—a pre-occupied name—and by Konow, *thomsoni*) with Lepelletier's *ferrugatus* is due to Dr. Enslin. I have seen a good many British ♀♀ of the species, but only two ♂♂ (both of the very dark form var. *miricolor*, Knw.). They were taken in Dumbartonshire by Mr. Malloch, who has kindly given me one of them.

Anticus is also British, but seems much rarer—at least I have only seen one ♂ and one ♀ (taken by Mr. Atmore in the King's Lynn district). The description by Mr. Cameron of his *anticus* does not agree so well with *anticus*; Kl., as with *ferrugatus*, although in Vol. iv he says that our species appears to him to be true *anticus* Kl. and not *brevicornis*, Th., nec. Zadd. (i.e., *ferrugatus*).

Pratensis, L.—I do not enter into the probably insoluble question whether Linné's actual type of *pratensis* belonged to this species.